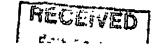
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12. Acknowledgement is made of the claim for priority under U.S.C. 119. The certified copy has 📮 been received 📮 not been received

13, Since this application apppears to be in condition for allowence except for formal matters, prosecution as to the merits is closed in

__ ; filed on _ _

are acceptable; and acceptable (see explanation or Notice re Patent Drawing, PTO-948).



Under 87 C.F.R. 1.84 these drawings

_____. has (have) been
approved by the

_____, has been 🔲 approved; 🔲 disapproved (see explanation).

accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213,

9. The corrected or substitute drawings have been received on.

been filed in parent application, serial no. _____

The proposed drawing correction, filed____

14, Other

The proposed additional or substitute sheet(s) of drawings, filed on _____
 examiner: disapproved by the examiner (see explanation).

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The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

**Claims 1 and 3-5, 7, 8, 11, 12 are rejected under 35 U.S.C. § 103 as being unpatentable over the combination of Endo et al. Shi et al, Park et al. Dreher et al and Badger et al.

Endo et al discloses the process of inhibiting protein synthesis by the hydrolysis of a phosphodiester bond on the 3' side of G-4325 which is a single-stranded loop 459 residues from the 3' and of 285 rRNA.

Shi et al disclose that in tRNA, the G3.U70 base pair in the amino acid acceptor helix acts as a determinant of alanine identity. See p. 3621.

Dreher et al teach that mutations in several locations result in large losses of adenylation activity. Note the Abstract of Dreher et al.

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1 1

Badger et al is cited to show the conventionality of using X-ray crystallography to determine the three-dimensional structures of RNA. Note the "Introduction".

In view of the above, it would have been obvious for one of ordinary skill in the art at the time of the invention to determine the three dimensional structure as taught by Badger et al and to determine the nucleotide sequence in the targeted ribonucleic acid that is critical to a function as taught by Endo et al., Shi et al and Dreher et al. Finally, it would have been obvious to then synthesis a compound which would bind specifically to the critical site since Park et al show that bound alanine tRNA synthetase protects seven consecutive phosphodiester linkages and other sites at specific locations in the three dimensional structure. These references do not recite "minor groove" by they do show or teach the importance of the location of the targeted sequences.

The following is a quotation of the first paragraph of 35 U.S.C. § 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification is objected to under 35 U.S.C. § 112, first paragraph, as failing to adequately teach how to make

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and/or uses the invention, i.e. failing to provide an enabling disclosure.

Applicant's arguments filed October 21, 1991, have been fully considered but they are not deemed to be persuasive.

The is no presentation of a best mode for carrying out the invention. For example, "Determination of tRNA recognition features by the chemical synthesis of tDNA substrates". It is stated that Roe et al. Science (1988), synthesized DNA, but there are no process steps, reaction parameters presented in the instant application. Discussion of the results of the method are given but no method steps.

The minimum energies for these structures are not given. How are they determined? How does one determine that the X-ray crystal structures are of the same three-dimensional structure in solution? How does one make a crystal? It is necessary to include the program for modeling the RNA structure since the program under the names CHARMM and QUANTA may change over the years.

Claims 1-13 are rejected under 35 U.S.C. § 112, first paragraph, for the reasons set forth in the objection to the specification.

Claims 1-10 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant

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regards as the invention.

It is not clear what the function of the bound compound is since binding is not necessarily inhibiting as shown by Park et al.

Yarbrough/LG January 15, 1992 January 17, 1992

> AMELIA BURGESS YARBROUGH PRIMARY EXAMINER ART UNIT 187